



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THEORY AS TRUTH: A CRITICISM

I WISH to point out what seems to me certain fundamental difficulties in a well-written paper in a recent number of this JOURNAL.¹ The thesis to be established is that theory, the last stage in knowledge of the scientific type, the other two of which are guesses, possible knowledge or hypotheses, and laws or probable knowledge, is as true as fact.

The first difficulty and the one which might cover all the others is the assumption, common to those of the idealistic persuasion, that truth is a completed totality of subject-matter. This assumption in itself might be accepted on condition that nothing more be said, but something more is said; therefore the difficulty. Assuming the totality, how is it possible to admit of the question as to the genuineness or of the hypothetical nature of the same? It is assumed as genuine, certainly, and on such an assumption the problem of error can not be admitted. In other words, knowledge can not be of the three degrees—possible, probable, and fact—on the assumption of a completed totality. If a completed totality is true, then we have in advance all that we can ever hope to get by following knowledge through the “stages”; if it is an hypothesis, if it is a guess or possible knowledge, we can not use it as a means of testing the other stages or as a limit to which knowledge approaches.

Coming to the more specific questions in the paper, we find that, though the nature of the case forbids that questions of theory can be answered by facts, “when the theories which answer them, however, are submitted to the scrutiny of logic it appears . . . that they have a certainty of the same order as that of *any bit of experience*.” Logic, that is to say, is taken from the completed totality and is made a standard by which the totality itself is measured, with the result that certainty of the same order as that of any bit of experience is reached. The certainty of immediate experience is the criterion for judging of the certainty of something avowedly not immediate, something “that we can never hope to reach with our senses, with matters beyond the reach of immediate experience.” It is by no means clear what is involved in the term “certainty” when we speak of certainty in any bit of experience.

Another question is the relation between hypotheses and theory. When are we to know whether we are dealing with an hypothesis or with a theory? Is this which I have before me (a scientist might ask) a theory, a law, or an hypothesis? The scientist can not be trusted to give us accurate information, for “theories have not been defined.” One test is “workability,” but this is not *the* test, for theories “pos-

¹ Vol. XIII., p. 236.

sess a certainty wholly beyond that inherent in their workableness." The nature of this certainty, wherein it consists, how it is known, how we get at it, we are not informed except with the general remark that theory is as true as fact. Just how true a bare fact is does not answer a question, but states a problem. It may be that logic is the test, for theories are "logically different from laws and hypotheses." To say, however, that a square is logically different from virtue, does not give us much information either about a square or virtue. A system may be logical and still not be true. One might build up a system on any chosen set of axioms. Logic certainly can not dictate the kind of world we shall have, for life is bigger than logic.

How do theories come to be, how do we get them? "The experiment of Young [on light] '*properly interpreted*' would have led to a certain theory, a certain truth—the undulatory theory of light." One way at least to get truth is to interpret an experiment properly. The question and the whole point is to determine a proper interpretation. It can not be "workability," for there is something "inherent," but what this "something" is we are left to imagine. If we imagine it to be consistency, the reply might be made that consistency applies to error as well as to truth. If we imagine a completed totality of subject-matter, we are assuming the very point we are seeking to make and are consequently dealing with guesses or hypotheses and not with theories. We can not reach theories by induction, because induction gives us laws only.

After the fact we may look back and see that our hypotheses were not true, but *before the fact*, they surely seemed true or they would not have been projected. Before the fact the "certain wholly beyond that inherent in their workableness" was a doubtful sort of certainty, but after the fact—after the crucial experiment—the doubtful certainty grew large and would never have been otherwise had the former experiments been "*properly interpreted*."

We are told that scientific facts and laws or sets of laws render certain a truth. "Another law is discovered which renders certain a little more of the truth and does away with part of the over-belief. When enough laws have been discovered, the situation becomes closed—within this small area we have truth—within these limits there is nothing more to be said." If the history of philosophy has taught us anything, it surely has taught us to regard "this small area" with suspicion. How many "truths" can we put our fingers on that are "fixed"—that never have been reconstructed and modified, and further that never will be? As a matter of practise, we have learned that our ideas are all hypotheses, that they are satisfactory plans of behavior *thus far*, but we have no lease on the future.

Enough laws, we are told, close a situation, but it seems that we have never found enough laws in the whole history of thinking to close any question. About the time we get settled to a transaction of business, a Copernicus or a Darwin steps in and destroys all the old stock in trade.

In Part III. we have theory defined—"the conditions without which a certain law, or set of laws, could not even be possibly true. It is *this* that is as true as a fact. If we attempt to carry this definition into any concrete case of science, we are in the predicament of having so much on our hands that we can do nothing with any of it. If we were called upon for the conditions without which the laws of color vision, for example, could not even be possibly true, we might give answers running in scope all the way from Mexican revolution to the existence of God—either, the sun, a nervous system, stimulus, retina, and a thousand of other things, the absence of any one of which would spoil the whole performance. That which is as true as fact turns out to be so general that it covers all particulars and consequently gives us no clue to a determination of any one.

H. E. CUNNINGHAM.

LEBANON, OHIO.

REVIEWS AND ABSTRACTS OF LITERATURE

Hauptwerke der Philosophie in originalgetreuen Neudrucken. Band V. *System der Logik.* JACOB FRIEDRICH FRIES. Durchgesehen und mit gänzlich neu bearbeitetem Namen und Sachregister herausgegeben von der Jakob Friedrich Fries Gesellschaft. Leipzig: Verlag von Felix Meiner. 1914. Pp. xx + 454.

Of late it has been frequently noted that contemporaneous philosophic thought consists very largely of the revival, in more or less fragmentary fashion, of classic philosophies. We have current disciplines derived from Kant, Fichte, Hegel, and Reid, and the recent publication of the second series of the *Abhandlungen der Friesschen Schule* attests the fact that interest has been renewed in the philosophy of Fries. Since Fries's logic incorporates a considerable portion of his philosophy,¹ a reprint of his treatise on logic will be welcomed; and perhaps an added interest is due to the criticisms of Fries in the volume of Bolzano's *Wissenschaftslehre* reprinted as Volume IV. in the preceding series.

Fries's position, which has been described as empirical idealism, is perhaps most easily penetrated by inquiring into his concept of science. A whole of knowledge, ordered and complete with regard to the subordination of the particular under the general (§§ 19, 66) is

¹ Cf. Walter Mechler, *Kant Studien, Ergänzungshefte* No. 22.